

REMARKS

STATUS SUMMARY

Claims 1-11 are pending in the present application. The drawings are objected to under 37 C.F.R. § 1.83(a) in that the “processing device” as recited in claim 1 is not shown in either FIG. 1 or FIG. 2. Claims 1-5 and 11 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Specifically, claims 1 and 11 recite “at least one correlator” without describing in the specification how one correlator can perform both early and late correlations.

The Examiner has also rejected claims 1-11 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 5,602,835 for *Farbod et al.* (“*Farbod*”) in view of U.S. Patent No. 6,567,482 to *Popovic* (“*Popovic*”).

These formal matters identified in the Office Action are addressed herein below.

AMENDMENTS TO DRAWINGS

The drawings are objected to under 37 CFR § 1.83(a) because every feature of the invention specified in the claims is not shown in the drawings, specifically, the “processing device” recited in claim 1. Accordingly, Applicants have remedied this matter by submitting a Replacement Sheet for FIG. 1 that now includes a processing device 11, support for which may be found, for example, at page 7, lines 29-30, and throughout the specification.

In view of the foregoing, Applicants respectfully submit that the objection to the drawing has been overcome, and request that this objection be withdrawn.

RESPONSE TO CLAIM REJECTIONS UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

The Examiner has rejected claims 1-5 and 11 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Accordingly, claims 1 and 11 are amended to make reference to “a plurality of correlators” rather than “at least one correlator.” Thus, with this amendment, with a plurality of correlators, an early and a late correlation may be performed simultaneously.

Accordingly, based on the foregoing, Applicants respectfully request that the Examiner’s rejection of claim 1-5 and 11 under 35 U.S.C. § 112, first paragraph, be withdrawn.

RESPONSE TO CLAIM REJECTIONS UNDER 35 U.S.C. § 103(a)

The Examiner has rejected claims 1-11 under 35 U.S.C. § 103(a) as being unpatentable under 35 U.S.C. § 103(a) over *Farbod* in view of *Popovic*. In independent claim 1, as amended, Applicants require “a sampler, for taking digital samples of a received signal,” “a processing device,” “a plurality of correlators for measuring a first correlation and a second correlation,” and “means for comparing the measured first and second correlations to produce a comparison output.” The “received signal includ[es] at least a first portion and a second portion which repeats the content of the first portion after a repeat interval.” An example of such a received signal is DVB-T COFDM signals that include a cyclic prefix to each active signal, which is a repeated after a known and fixed active symbol. Page 1, lines 13-19.

The Examiner concedes that *Farbod* is silent about such a received signal and does not teach first and second correlations measured between a first and third group of samples and a second and fourth group of samples. The Examiner cites to column 4, lines 53-62 and lines 24-

42, of *Popovic*' as teaching the received signal including at least a first and second portions wherein the second portion repeats the content of the first portion after a repeat interval.

The cited columns, however, do not teach a received signal that includes at least a first portion and a second portion that repeats the content of the first portion after a repeat interval. In *Popovic*', the invention relates to "synchronizing transceivers in a direct sequence spread spectrum radio communications system." Column 1, lines 7-9. To achieve synchronization, one station's transmission must include some known signal (i.e., known to the other station), which may be referred to as a synchronization sequence or code in the downlink direction, or a preamble sequence in the uplink direction. Column 3, lines 45-52.

The cited lines in column 14 of *Popovic*' describes correlating the received signal in a matched filter 410 with a preamble spreading code, with an intermediate correlation value produced by the matched filter 410 then being multiplied by a multiplier 420 with an element of a signature sequence(provided by a base station over a broadcast channel). Column 14, lines 28-34. This is followed by additional steps, such as summing the output of the multiplier 420 with the output of a delay line 440, with an absolute correlation value eventually being calculated in a peak detector 450. Column 14, line 53, through column 15, line 1. Nowhere in this description is any mention made of a received signal having a repeated portion after a repeat interval.

Thus, what is described in *Popovic*' is, in general, a synchronization process that utilizes correlators, multipliers, summers, and a peak detector, but does disclose or teach that the received signal include a portion thereof that is repeated after a repeat interval. Thus *Popovic*' does not teach each and every element of claim 1, even when combined with *Farbod*. Accordingly, independent claim 1 is in condition for allowance.

Claim 6, claiming a method of receiving a signal that includes at least a first portion and a second portion that repeats the content of the first portion after a repeat interval, and claim 11, claiming a receiver circuit for processing a received signal that includes at least a first portion and a second portion that repeats the content of the first portion after a repeat interval, are also allowable for the same reasons. Claims 2, 3, 4, and 5 depend directly or indirectly from allowable claim 1, and therefore are distinguishable over *Farbod* combined with *Popovic*' for at least the same reasons, and claims 7, 8, 9, and 10 depend directly or indirectly from allowable claim 6, and therefore are also distinguishable over *Farbod* combined with *Popovic*' for at least the same reasons.

In view of the foregoing, Applicants respectfully submit that claims 1-11 are patentable under 35 U.S.C. § 103(a) over *Farbod* in view of *Popovic*', and respectfully request that the rejection of these claims under 35 U.S.C. § 103(a) be withdrawn.

CLAIM AMENDMENTS

In addition to the amendments to claims 1 and 11 described above, additional amendments were made to claim 11 to improve grammar and correct typos. No new matter has been added by these Amendments. Additionally, Applicants reserve the right to present the amended claims in their original form in one or more continuation applications.

AMENDMENTS TO SPECIFICATION

Several paragraphs of the specification have been amended in minor aspects to improve clarity, correct typographical errors, etc. As an example, the detailed description of FIG. 1 referred to a “multiplier 22” while the detailed description of FIG. 2 referred to a “correlator 22.” Typographical errors such as these were amended to make the specification consistent throughout. Additionally, the partial paragraph on page 4, lines 1-16, was amended to reflect the changes to FIG. 1.

No new matter has been added by these Amendments.

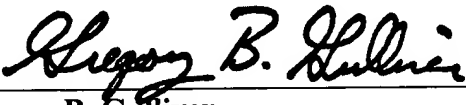
CONCLUSION

In light of the above amendments and remarks, it is respectfully submitted that the present application is now in proper condition for allowance, and an early notice to such effect is earnestly solicited.

If any small matter should remain outstanding after the Patent Examiner has had an opportunity to review the above Remarks, the Patent Examiner is respectfully requested to telephone the undersigned patent attorney in order to resolve these matters and avoid the issuance of another Official Action.

Respectfully submitted,
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